



CLEAN VAPOR, L.L.C.
RADON & V.O.C. PLAN DESIGN AND REMEDIATION

Report for Vapor Extraction Systems
89 Morris Street
Morristown, New Jersey

Prepared for:

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July 6, 2007

89 Morris Street Property, Morristown, NJ

The report summarizes the VOC remediation activities at 89 Morris Street, Morristown, NJ between May 23rd and June 22nd, 2007. Starting October 5, 2006 through October 21, 2006 the VOC remediation systems, were installed as outlined, in the September 19, 2006 General Installation requirement specifications. A total of five (5) suction blowers were installed servicing rental area 10 which is the Dry Cleaner itself. Power was supplied and the blowers were activated on June 21st. The system passed the municipal building and electrical inspections conducted on June 25th. Manometer, sub-slab vacuum field measurements and exhaust air flow measurements were made on July 5th, 2007. The table below summarizes the manometer and air-flow measurements. See attached floor plan for actual suction point and blower locations.

6.0 GENERAL SYSTEM DESIGN INFORMATION (May 3, 2007, Document)

Throughout these specifications the Owner or their representative shall be referred to as the "Owner". The selected mitigation contractor shall be referred to as the "Contractor".

7.0 GENERAL INSTALLATION REQUIREMENTS

All portions of the contaminant system will abide by the relevant specifications specified in Section 7.0 to, and including, Section 15.3.

- 7.1** The contaminant mitigation system installation shall be done so as to coordinate with other building components especially those that require maintenance or clearance of any type. All mitigation system components shall be installed to facilitate servicing, maintenance and repair or replacement of other equipment components in or outside the building. Where mounting heights are not detailed or dimensions given, system materials and equipment are to be installed to provide the maximum headroom or side clearance as is possible. The Owner must be contacted in cases where a conflict exists between these or other requirements and the drawings or specifications. All systems, materials and equipment shall be installed level, plumb, parallel or perpendicular to other building systems and components unless otherwise specified.
- 7.2** The Contractor shall take every possible precaution to avoid any damage to existing utilities located anywhere in the building or those located in or below the slab floor. It is our understanding that the blueprints indicating utility piping in or under the slab are not available. Undocumented sub-slab utilities may alter the scope of work. A metal detecting relay box or another similar instrument will be used in conjunction with any slab drilling.
- 7.3** The Owner will be responsible for covering or finishing any contaminant piping or electrical conduit that the owner desires to conceal. The Contractor shall seal all penetrations through foundation walls or floors. There shall be no placement of piping or conduit that would inhibit intended use of any areas.

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- 7.4 The Contractor shall ensure that any foreign materials are not left or drawn into the contaminant system piping or fan which might at a later period interfere with or in any way impair the contaminant system performance.
- 7.5 The entire system shall have UL or equivalent ratings for both individual components and the entire system as applicable.

8.0 SYSTEM MATERIALS

Contaminant Vent Piping

PVC schedule 40 pipe and fittings (ASTM D-2665)

(Foam core PVC piping can be used)

PVC cement primer shall comply with ASTM F-656

PVC cement adhesive shall comply with ASTM D-2564

Piping Supports

3" and 4" Hanging Pipe Supports

Swivel ring or standard bolt type clevis

Adjustable band hanger

Sammy Screws or Drop in Anchors

3/8" threaded rod

Assorted bolts, nuts & washers

3" and 4" Pipe Secured to Concrete Floor or Wall

Slotted Conduit Channel

Conduit Clamps

3/8" Wedge Anchors

Assorted bolts, nuts & washers

Contaminant Fan

Fantech HP 220

AMG Force Blower

RadonAway GP 501

4" to 6" rubber boots with stainless steel hose clamps

4" to 4" rubber boots with stainless steel hose clamps

3" to 3" rubber boots with stainless steel hose clamps

Sealing Materials

Urethane sealant shall comply with Federal Specification TT-S-00230C, Subject to compliance with Contract requirements; the following manufacturers of urethane caulking sealants may be used:

Pecora Corp. (Dynatrol)

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Mameco Inc. (Vulkem or CR Lawrence)

Visual pressure indicator
U-tube manometer

9.0 SUCTION HOLE INSTALLATION

- 9.1** In order to achieve the vacuum field distribution and not disrupt building use objectives, each of the six suction points will be located in near exterior or partition walls. The specific location of each suction hole will be agreed upon by the contractor and owner prior to initiating remediation. Each suction hole will be cut approximately 5" in diameter. The Contractor will follow the procedures listed in Section 7.2 to minimize damaging any sub-slab utilities.
- 9.2** The Contractor shall remove a minimum of one cubic foot of sub-slab material from each suction hole. Primary suction points will consist of PVC schedule 40 pipe shall be installed so that it is flush with the bottom of the concrete slab in each suction hole. The pipe shall be secured above the suction hole with a pipe clamp attached to the concrete ceiling, cement wall or concrete floor. The pipe will be sealed into each suction hole by inserting backer rod material of sufficient size to compress between the pipe and the concrete floor. Urethane gun-grade caulking or mortar mix will be installed on top of the backer rod.
- 9.3** There are a total of 7 suction points to be installed. (See Suction Point Location on the Building Diagram Page 12)
- 9.4** Disposing of soil excavated from the suction points is the responsibility of the owner.

10.0 PVC PIPE INSTALLATION

- 10.1** All horizontal pipe runs between the fan and the first suction hole shall be installed with 1 inch slope back to a suction hole for each ten feet of horizontal pipe run. All vertical pipe runs shall be installed plumb. All horizontal runs after the first suction hole may be run level. In no case however, shall the piping be installed so as to create a possible water trap in the piping.
- 10.2** The pipe will be supported at least every eight feet of horizontal run and at least every ten feet of vertical run. All horizontal pipe runs will have a support with an appropriate device within two feet of each fitting and a maximum distance between supports of eight feet as per BOCA National Plumbing Code. The ceiling supporting devices shall be a 3/8 inch all thread rod to structural members capable of providing the necessary support. Conduit channel with pipe clamps can also be used to support PVC routed along the ceiling or walls. PVC pipe cannot be supported by other building piping or ducts. Swivel ring or standard bolt type clevis shall be used to support PVC pipe.

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- 10.3** All support straps and anchors installed outdoors shall be either aluminum, stainless steel or galvanized.

11.0 BLOWER INSTALLATION

- 11.1** There will be total of five roof mounted blowers, three Fantech HP 220 blowers, one RadonAway GP 501 blower and one AMG Force high suction blower. The AMG Force blower will be mounted on a galvanized stands with high density foam rubber blocks separating the metal stands from the roofing material. The Fantech HP 220 blowers will be attached to the riser pipe with rubber boots in a manner that allows easy removal for replacement or maintenance. (See contaminant Blower-Detail Section, pg. 16-23)
- 11.2** The locations of the blowers are noted on the print. The AMG Force blowers are symbolized by an orange square with a dot in the center and the Fantech HP 220 Blowers are symbolized by an orange circle with a dot in the center. Blower exhaust shall be at least 20 from air intakes, passive relief vents and 10 feet from lot lines.

12.0 ROOF PENETRATIONS

- 12.1** All roof penetrations must be coordinated with the Owner prior to performing the work. The Contractor will make the penetration through the roof. The Owners roofing shall perform the flashing related sealing work.
- 12.2** The building owner is responsible for sub-contracting the roofing contractor to install the sealing for pipe and conduit roof penetrations.

13.0 SEALING

13.1 Slab Crack and Expansion Joint Sealing

Any visible expansion joints or slab cracks in the areas being mitigated that have 1/16 inch or greater opening shall be sealed. Any cracks to be sealed will first be ground out and vacuumed to prepare them for installation of gun-grade urethane caulk sealant. Cracks or open expansion joints in the concrete floor shall be sealed by applying a bead of urethane caulk on top of the joint. The gun-grade caulk shall then be mechanically pressed down into the crack in order to maximize its seal. Sealants that spill over onto the floor shall be scraped off as soon as possible and then wiped thoroughly with a solvent and a rag. Any openings into the slab such as may occur around conduit pipe penetrations through the slab will be cleaned and sealed with gun-grade urethane caulk.

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13.2 Perimeter Expansion Joint

Any expansion strips in the concrete slab of the rooms being mitigated that are accessible shall be sealed with urethane caulking. The perimeter floor joint will be sealed with gun-grade urethane caulking after the joint has been vacuumed.

14.0 FAN WIRING AND PRESSURE GAUGE

- 14.1** The owner is responsible for providing electrical panel capacity. A dedicated breaker is not required.
- 14.2** The owner will install, within two feet of each blower a roof mounted disconnect switch in an outdoor rated electrical box with an outdoor rated switch cover.
- 14.3** The Contractor is responsible for providing conduit, wiring and electrical power from the switch to the blower. The Contractor shall use outdoor rated flexible conduit from each switch box to the blower. Wiring from the switch box to the blower shall be approved individual 12 gauge wire.
- 14.4** The Fantech Blower has a maximum amperage draw of less than 2 amps and a voltage requirement of 110 volts. The specified AMG Force blower has a maximum amperage draw of less than 2.48 amps and a voltage requirement of 120 volts. The RadonAway GP 501 Blower has a maximum amperage draw of less than 2 amps and a voltage requirement of 110 volts.
- 14.5** A U-tube manometer will be installed for each fan by the Contractor on a vertical section of the piping inside the building. The location of the U-tube will be decided in consultation with the Owner.

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Blower Performance Table

<u>Service Area</u>	<u>Blower # on Print</u>	<u>Blower Type</u>	<u>Suction Points</u>	<u>Maximum Vacuum</u>	<u>Maximum Air Flow</u>	<u>Manometer Reading Inches W.C.</u>	<u>Blower Exhaust CFM</u>
10.1, Office	9	AMG Eagle	2	4.2	95	3.43	<10
10.5 Hanging laundry/Boiler	10	Fantech HP220	1	2.45	345	2.48	121
10.6 Partial Raised Wood Floor	11	AMG Force	2	5.5	240	3.75	87
10.7 Dry Cleaning Machine Back	12	Fantech HP220	1	2.45	345	2.25	27
10.7 Dry Cleaning Machine Front	13	Fantech HP220	1	2.45	345	1.94	82

Sub Slab Vacuum Field Measurements

Blower 9

<u>Service Area</u>	<u>Blower # on Print</u>	<u>Blower Type</u>	<u>Suction Points</u>	<u>Maximum Vacuum</u>	<u>Maximum Air Flow</u>	<u>Manometer Reading Inches W.C.</u>	<u>Blower Exhaust CFM</u>
10.1 Office	9	AMG Eagle	2	4.2	95	3.43	<10

<u>Floor Test Hole</u>	<u>Distance from Suction Point</u>	<u>SubSlab Vacuum Inches W.C.</u>
T-40	17 feet	0.0812
T-41	36 feet	0.1669
T-42	9 feet	0.0012*
T-45	19 feet	0.0235

Blower 10

<u>Service Area</u>	<u>Blower # on Print</u>	<u>Blower Type</u>	<u>Suction Points</u>	<u>Maximum Vacuum</u>	<u>Maximum Air Flow</u>	<u>Manometer Reading Inches W.C.</u>	<u>Blower Exhaust CFM</u>
10.5 Hanging Laundry/Boiler	10	Fantech HP220	1	2.45	345	2.48	121

<u>Floor Test Hole</u>	<u>Distance from Suction Point</u>	<u>Subslab Vacuum Inches W.C.</u>
T-38	1.5 feet	0.9060
T-39	12 feet	0.1440

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Blower 11

<u>Service Area</u>	<u>Blower # on Print</u>	<u>Blower Type</u>	<u>Suction Points</u>	<u>Maximum Vacuum</u>	<u>Maximum Air Flow</u>	<u>Manometer Reading Inches W.C.</u>	<u>Blower Exhaust CFM</u>
10.6 Partial Raised Wood Floor	11	AMG Force	2	5.5	240	3.75	87
<u>Floor Test Hole</u>	<u>Distance from Suction Point</u>	<u>SubSlab Vacuum Inches W.C.</u>					
T-30	19 feet	0.0061					
T-31	2 feet	1.4020					
T-32	3 feet	0.5020					
T-33	10 feet	0.0183					
T-34	13 feet	0.0067					
T-35	25 feet	0.0114					
T-36	35 feet	0.0351					

Blower 12

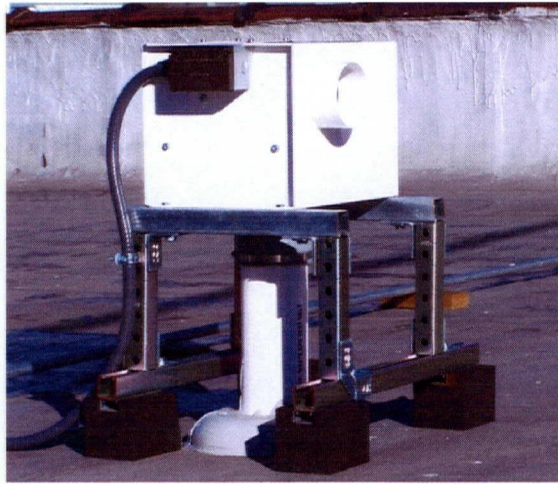
<u>Service Area</u>	<u>Blower # on Print</u>	<u>Blower Type</u>	<u>Suction Points</u>	<u>Maximum Vacuum</u>	<u>Maximum Air Flow</u>	<u>Manometer Reading Inches W.C.</u>	<u>Blower Exhaust CFM</u>
10.7 Dry Cleaning Machine Back	12	Fantech HP220	1	2.45	345	2.25	27
<u>Floor Test Hole</u>	<u>Distance from Suction Point</u>	<u>SubSlab Vacuum Inches W.C.</u>					
T-35	20 feet	0.0114					
T-37	12 feet	0.0104					

Blower 13

<u>Service Area</u>	<u>Blower # on Print</u>	<u>Blower Type</u>	<u>Suction Points</u>	<u>Maximum Vacuum</u>	<u>Maximum Air Flow</u>	<u>Manometer Reading Inches W.C.</u>	<u>Blower Exhaust CFM</u>
10.7 Dry Cleaning Machine Back	13	Fantech HP220	1	2.45	345	1.94	82
<u>Floor Test Hole</u>	<u>Distance from Suction Point</u>	<u>SubSlab Vacuum Inches W.C.</u>					
T-44	2 feet	1.090					
T-34	14 feet	0.0067					

* Represents inconclusive data, since carpet prevented a gas tight seal from being achieved.

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Blower	AMG Force
Max Power consumption	302 watts
Maximum Recommended Operating Suction	4.5" W.C.
Power source	Dedicated VOC Circuit
Manometer Readings	See Table



Blower	Fantech HP 220
Power consumption	85-152 watts
Maximum Recommended Operating Suction	2.46" W.C.
Power source	Dedicated VOC Circuit
Manometer Readings	See Table

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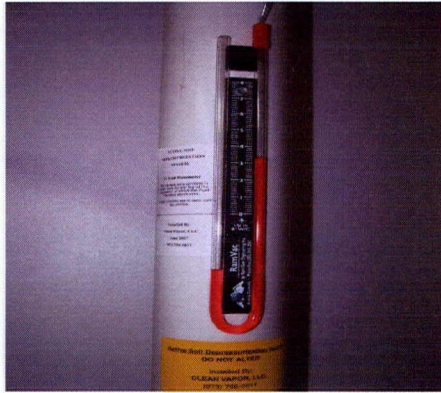
Blower	RadonAway GP 501
Power consumption	70 – 140 watts
Maximum Recommended Operating Suction	3.8" W.C.
Power source	Dedicated VOC Circuit
Manometer Reading	See Table

Operation and Maintenance:

All maintenance on a (ASD) system should be performed by qualified maintenance personnel.

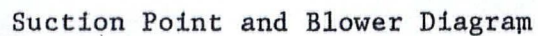
Each separate fan system has a U-tube vacuum indicator that is installed on the piping. The manometer indicates the static vacuum that the blower is holding on the soil beneath the slab. All specified sealing has been completed. Sub slab vacuum field pressure differential measurements have been conducted using a micro-manometer. These results for the Building are on a Table that is titled "Final Sub Slab Pressure Field Measurement".

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The following are items to be checked on a quarterly basis to determine if maintenance of the suction blower is necessary:

- **U-tube vacuum indicators:** The level of fluid in each side of the U-tube vacuum indicator should be different (uneven). If the levels in each side of the U-tube vacuum indicator are equal in height, the system may not be working properly.
- **Floor caulking:** Floor and wall caulking should remain in good condition, and all floor openings should be sealed. If floor caulking is damaged or missing system performance could be compromised.
- **Suction Blowers:**
 - Fantech HP 220
 - RadonAway GP 501
 - AMG Force





Fantech

**Trust the
Industry
Standard!**

Improved UV resistance!

for Radon Applications

Why put your reputation at stake by installing a fan you know won't perform like a Fantech? For nearly fourteen years, Fantech has manufactured quality ventilation equipment for Radon applications. Fantech is the fan Radon contractors have turned to in over 1,000,000 successful Radon installations worldwide.

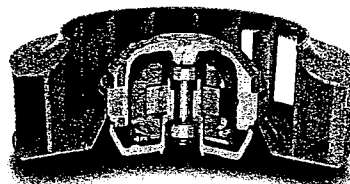
Fantech HP Series Fans Provide the Solutions to meet the challenges of Radon applications:

HOUSING

- UV resistant, UL listed durable plastic
- UL Listed for use in commercial applications
- Factory sealed to prevent leakage
- Watertight electrical terminal box
- Approved for mounting in wet locations - i.e. Outdoors

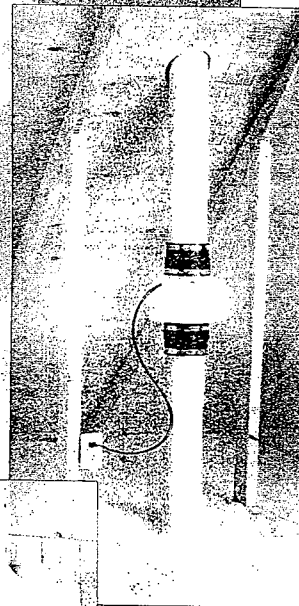
MOTOR

- Totally enclosed for protection
- High efficiency EBM motorized impeller
- Automatic reset thermal overload protection
- Average life expectancy of 7-10 years under continuous load conditions



RELIABILITY

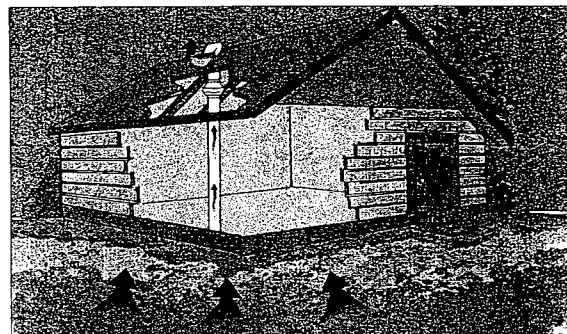
- Five Year Full Factory Warranty
- Over 1,000,000 successful radon installations worldwide





HP Series Fans are specially designed with higher pressure capabilities for Radon Mitigation applications

Fantech has developed the HP Series fans specifically to suit the higher pressure capability requirements needed in Radon Mitigation applications. Most Radon Mitigators who previously used the Fantech FR Series fans have switched to the new HP Series.



Performance Data

Fan Model	Volts	Wattage Range	Max. Amps	CFM vs. Static Pressure in Inches W.G.								Max. Ps
				0"	0.5"	0.75"	1.0"	1.25"	1.5"	1.75"	2.0"	
HP2133	115	14 - 20	0.17	134	68	19						0.84
HP2190	115	60 - 85	0.78	163	126	104	81	58	35	15	-	1.93
HP175	115	44 - 65	0.57	151	112	91	70	40	12			1.66
HP190	115	60 - 85	0.78	157	123	106	89	67	45	18	1	2.01
HP220	115	85 - 152	1.30	344	260	226	193	166	137	102	58	2.46

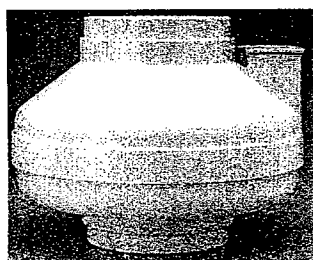


Performance Curves

Fantech provides you with independently tested performance specifications.

The performance curves shown in this brochure are representative of the actual test results recorded at Texas Engineering Experiment Station/Energy Systems Lab, a recognized testing authority for HVI. Testing was done in accordance with AMCA Standard 210-85 and HVI 915 Test Procedures. Performance graphs show air flow vs. static pressure.

Use of HP Series fans in low resistance applications such as bathroom venting will result in elevated sound levels. We suggest FR Series or other Fantech fans for such applications.

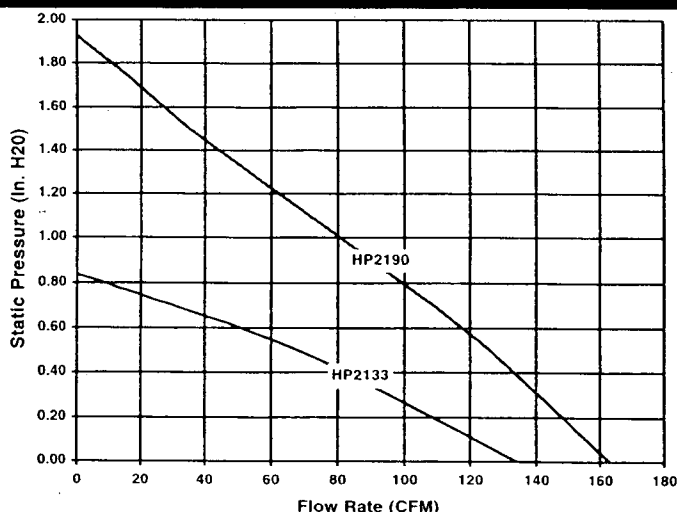


HP FEATURES INCLUDE

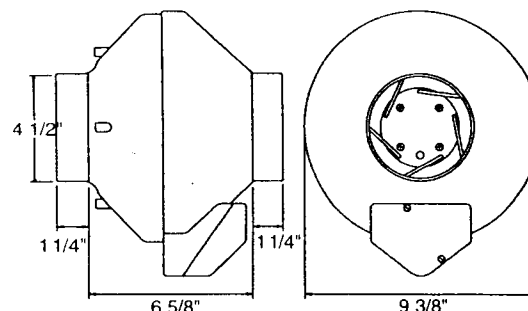
- Improved UV resistant housings approved for commercial applications.
- UL Approved for Wet Locations (Outdoors)
- Sealed housings and wiring boxes to prevent Radon leakage or water penetration
- Energy efficient permanent split capacitor motors
- External wiring box
- Full Five Year Factory Warranty



HP2133 and 2190 Radon Mitigation Fans



Tested with 4" ID duct and standard couplings.



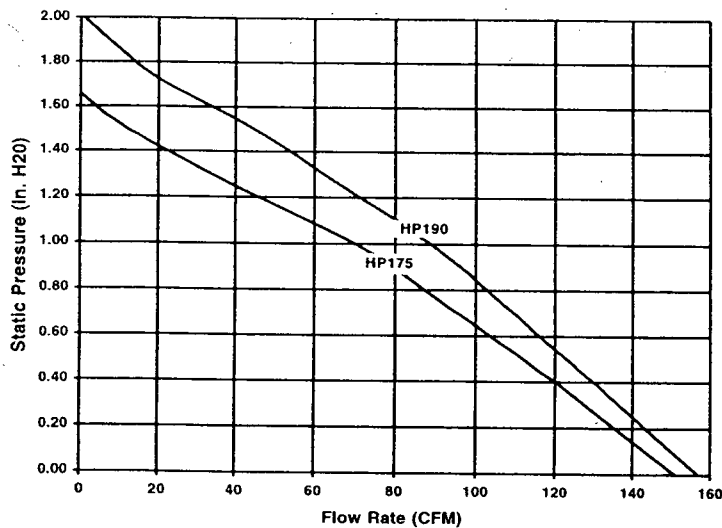
HP2133 – For applications where lower pressure and flow are needed. Record low power consumption of 14-20 watts! Often used where there is good sub slab communication and lower Radon levels.

HP2190 – Performance like the HP190 but in a smaller housing. Performance suitable for the majority of installations.

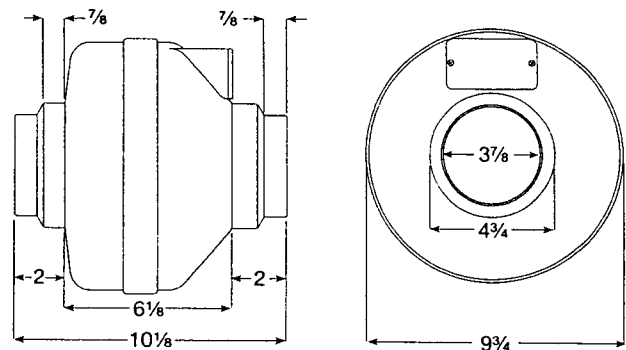
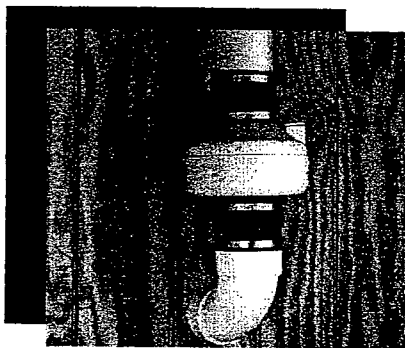
Fans are attached to PVC pipe using flexible couplings.

For 4" PVC pipe use Indiana Seals #156-44, Pipeconx PCX 56-44 or equivalent.
For 3" PVC pipe use Indiana Seals #156-43, Pipeconx PCX 56-43 or equivalent.

HP175 and HP190 Radon Mitigation Fans



Tested with 4" ID duct and standard couplings.



HP175 – The economical choice where slightly less air flow is needed. Often used where there is good sub slab communication and lower Radon levels.

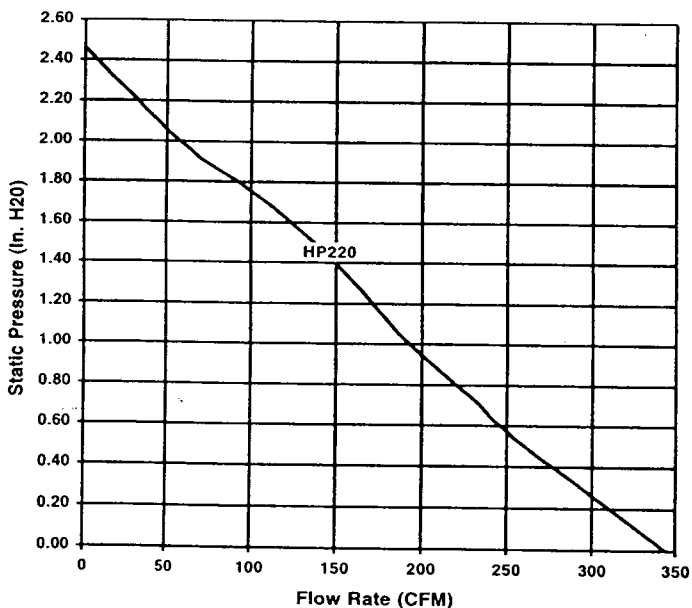
HP190 – *The standard for Radon Mitigation.* Ideally tailored performance curve for a vast majority of your mitigations.

Fans are attached to PVC pipe using flexible couplings.

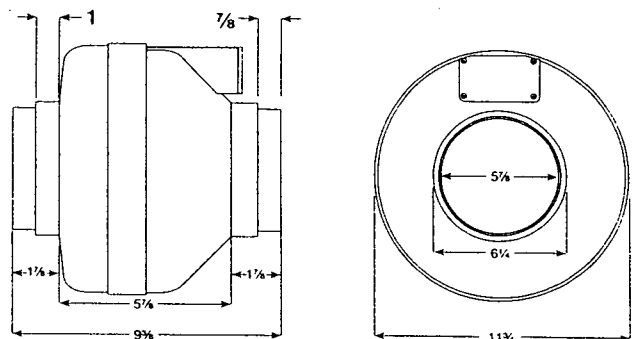
For 4" PVC pipe use Indiana Seals #151-44, Pipeconx PCX 51-44 or equivalent.

For 3" PVC pipe use Indiana Seals #156-43, Pipeconx PCX 56-43 or equivalent.

HP220 Radon Mitigation Fan



Tested with 6" ID duct and standard couplings.



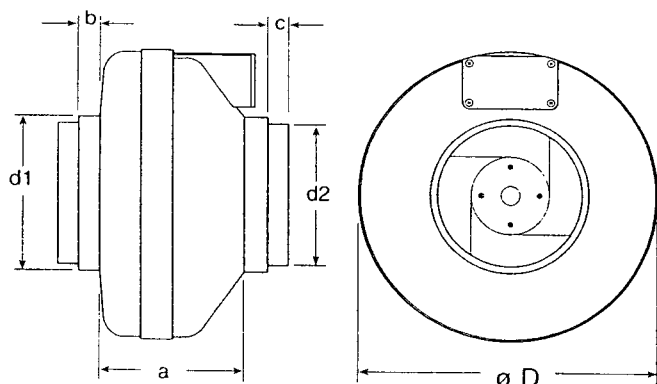
HP 220 – Excellent choice for systems with elevated radon levels, poor communication, multiple suction points and large subslab footprint. Replaces FR 175.

Fans are attached to PVC pipe using flexible couplings.

For 4" PVC pipe use Indiana Seals #156-64, Pipeconx PCX 56-64 or equivalent.

For 3" PVC pipe use Indiana Seals #156-63, Pipeconx PCX 56-63 or equivalent.

The Original Mitigator – Fantech's FR Series Fans



Dimensional Data

model	øD	d1	d2	a	b	c
FR100	9 1/2	3 7/8	4 7/8	5 1/4	7/8	7/8
FR110	9 1/2	3 7/8	4 7/8	5 1/4	7/8	7/8
FR125	9 1/2	—	4 7/8	5 1/4	7/8	—
FR140	11 3/4	5 7/8	6 1/4	5 7/8	1	7/8
FR150	11 3/4	5 7/8	6 1/4	5 7/8	1	7/8
FR160	11 3/4	5 7/8	6 1/4	6 3/8	1	7/8
FR200	13 1/4	7 7/8	9 7/8	6 1/4	1 1/2	1 1/2
FR225	13 1/4	7 7/8	9 7/8	6 1/4	1 1/2	1 1/2
FR250	13 1/4	—	9 7/8	6 1/4	—	1 1/2

All dimensions in inches



Performance Data

Fan Model	Max. RPM	Volts	Wattage Range	Max. Amps	CFM vs. Static Pressure in Inches W.G.							Max. Ps	Duct Dia.
					0"	0.2"	0.4"	0.6"	0.8"	1.0"	1.5"		
FR100	2865	115	33-42	0.44	108	100	72	54	19	—	—	86"	4"
FR110	2761	115	58-75	0.67	167	150	133	113	88	63	4	1.60"	4"
FR125	2859	115	38-47	0.47	131	120	88	62	14	—	—	82"	5"
FR140	2832	115	45-60	0.52	214	190	162	132	99	46	—	1.15"	6"
FR150	2411	115	73-90	0.78	243	220	196	170	142	114	18	1.56"	6"
FR160	2539	115	98-124	1.09	289	260	233	206	179	154	89	2.32"	6"
FR200	2507	115	102-123	1.07	408	360	308	259	213	173	72	2.14"	8"
FR225	2964	115	105-144	1.28	429	400	366	332	297	260	168	2.48"	8"
FR250	2817	115	127-230	2.08	563	600	493	456	419	381	294	2.95"	10"

FR Series performance is shown with ducted outlet. Per HVI's Certified Ratings Program, charted air flow performance has been derated by a factor based on actual test results and the certified rate at .2 inches WG.

Five (5) Year Warranty

THIS WARRANTY SUPERSEDES ALL PRIOR WARRANTIES

FOR FACTORY RETURN YOU MUST:

- 1) Have a Return Materials Authorization (RMA) number. This number may be obtained by calling FANTECH, INC. at 1-800-747-1762. Please have Bill of Sale available.
- 2) The RMA number must be clearly displayed on the outside of the carton, or delivery will be refused.
- 3) All product being returned must be shipped prepaid and be accompanied with a copy of the Bill of Sale.
- 4) Product will be replaced/repaired and shipped back to buyer. No credits will be issued.

DURING THE FIRST THIRTY (30) DAYS:

FANTECH, INC. will replace any product which has a factory defect in workmanship or material. Product may be returned to either the point of purchase or the FANTECH factory, together with Bill of Sale, for an immediate replacement.

DURING THE FIRST THREE (3) YEARS: (excluding the above 30 day period)

FANTECH, Inc. will replace any product which has a factory defect in workmanship or material. Product must be returned to the FANTECH factory, together with Bill of Sale, and identified with an RMA number.

DURING YEARS FOUR (4) and FIVE (5):

FANTECH, INC. will repair or replace any product which has a factory defect in workmanship or material. Product must be returned to the Fantech FACTORY, together with a Bill of Sale, and identified with an RMA number.

THE FOLLOWING WARRANTIES DO NOT APPLY:

Damages from shipping, either concealed or visible. Claim must be filed with the carrier.

Damages resulting from improper wiring or installation.

Damages caused by acts of nature, or resulting from improper consumer procedures such as:

- Improper Maintenance,
- Misuse, abuse, abnormal use, or accident, or
- Incorrect electrical voltage or current.

Removal or alterations made on the FANTECH label control number or date of manufacture.

Any other warranty, expressed, written or implied, and to any consequential or incidental damages, loss of property, revenues, or profit, or costs of removal, installation or reinstallation, for any breach of warranty.

WARRANTY VALIDATION:

The end user must keep a copy of the Bill of Sale to verify purchase date.

Distributed by:



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e-mail: info@fantech-us.com

FANTECH HP220 RADON FAN

WATER TIGHT JUNCTION BOX
W/ LOCK SWITCH

ø4"-Sch.40 PVC PIPE

THOMAS HATTON
RADON MITIGATION SPECIALIST NJDEP # MIS 10245

RADON FAN DETAIL-C

DATE: 08-04-05

REVISED:

SCALE: NONE

DRAWN BY:

AR

SHEET 10

The Force... behold the power.

Performance Figures - AMG Force

Model	Volts	Watts	Max. Amps	0-100%
AMG Force	120V 60Hz	302	2.48	240

Weight: 19lb

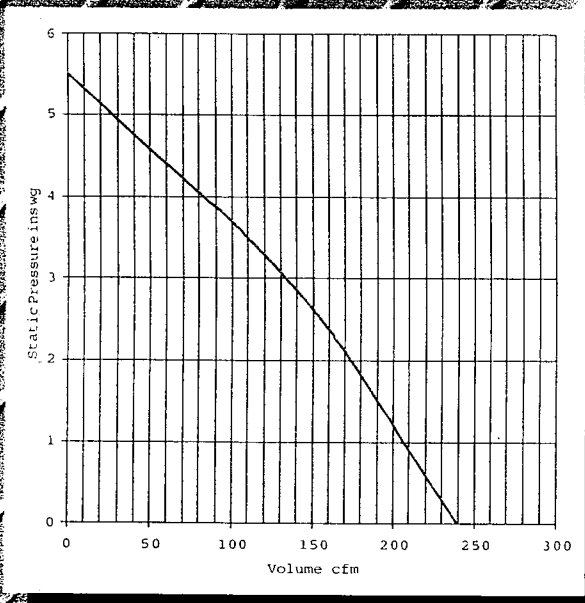
Fan Speed: 2950 rpm

Performance shown is for installation type 1. Performance range is 0.1 in. static pressure to 5.0 in. static pressure.

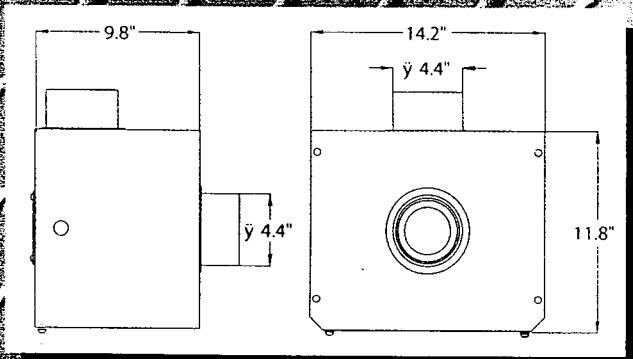
Ducted inlet. Ducted outlet.

Speed (rpm) shown is nominal. Performance shown is based on actual speed of test.

Performance Graph



Dimensions



AMG Force is a registered trademark of AMG. All other trademarks are the property of their respective owners. © 2000 AMG. All rights reserved.

Air Movement Group

Radon Gas Extract Fans – offered exclusively through Festa Radon Technologies Co.



Installation & Wiring Instructions for AMG In Line Centrifugal Duct Fans



Model: AMG FORCE



IMPORTANT NOTE : DO NOT CONNECT THE POWER SUPPLY UNTIL THE FAN IS COMPLETELY INSTALLED.
MAKE SURE THE ELECTRICAL SERVICE TO THE FAN IS LOCKED IN "OFF" POSITION.

PLEASE READ AND SAVE THESE INSTRUCTIONS :

Warning – To reduce the risk of fire, electric shock or injury to persons, observe the following.

1. This unit is only for use in the manner intended by the manufacturer. If you have any questions contact the manufacturer via Festa Radon Technologies Co.
2. Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.
3. Sufficient air is needed for proper combustion and exhausting of gases through the flue(chimney) of fuel burning equipment to prevent back drafting. Follow the heating equipment manufacturer's guideline and safety standards such as those published by the National Fire Protection Association (NFPA), and the American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), and the local code authorities.
4. When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.
5. Ducted fans must always be vented to the outdoors.
6. These units can be mounted indoors or outdoors.
7. Do not use these fans with solid state speed controllers.
8. The electric motor is protected by an internal overheat device to prevent/minimise motor damage. If the motor stops working, immediate inspection should be carried out by suitably qualified persons.
9. Before servicing or cleaning the unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.
10. Do not use in a window.
11. If this unit is to be installed over a tub or shower, it must be marked as appropriate for the application and be connected to a GFCI (Ground Fault Circuit Interrupter) – protected branch circuit.
12. Never place a switch where it can be reached from a tub or shower.
13. CAUTION: For General Ventilating Use Only. Do Not use to Exhaust Hazardous Or Explosive Materials and Vapours.
12. CAUTION: This unit has an unguarded impeller. Do Not Use in Locations Readily Accessible To People or Animals.

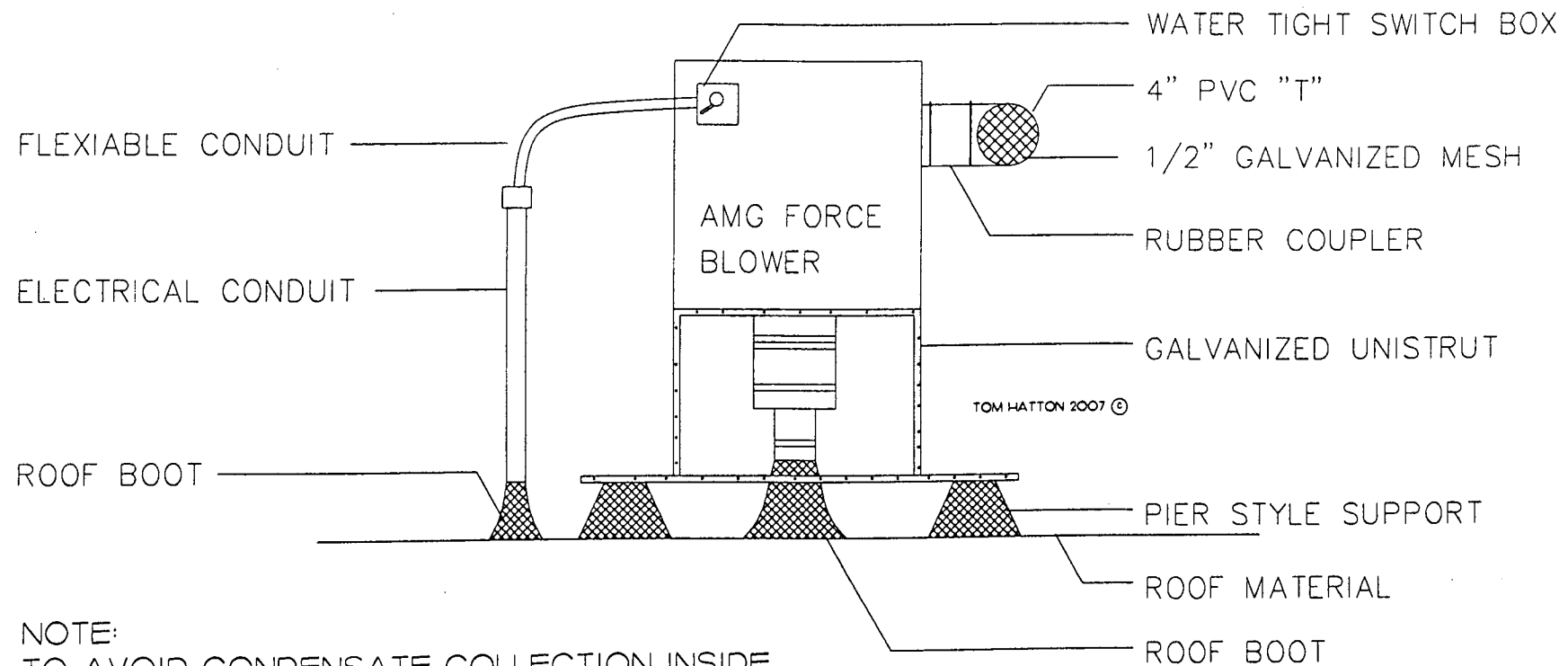
Installation of AMG Force Radon Fans.

The AMG Force Radon Fans can be mounted indoors or outdoors. We recommend that EPA recommendations be used in choosing the fan location. The AMG Force fans **may not** be mounted directly onto the piping system and must be fastened to a supporting structure. When connecting directly onto a vertical piping system it is the installers responsibility to make provision to prevent the pipe system sliding into and onto the fan motor and impeller.

When installing a system with short duct runs terminating close to the fan i.e. within 60"(1.5m) suitable guards should be incorporated. It is the responsibility of the installer to ensure that all aspects of the system are taken into consideration.

Rigid ducting sections should be connected to fan spigots by flexible connectors and clips. The flexible connectors used should be suitable for routine servicing and vibration isolation.

ROOF MOUNTED AMG FORCE BLOWER AND SUPPORT DETAIL



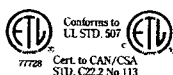
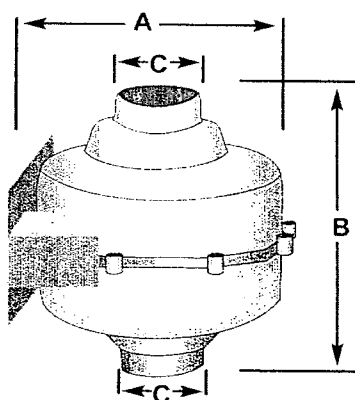
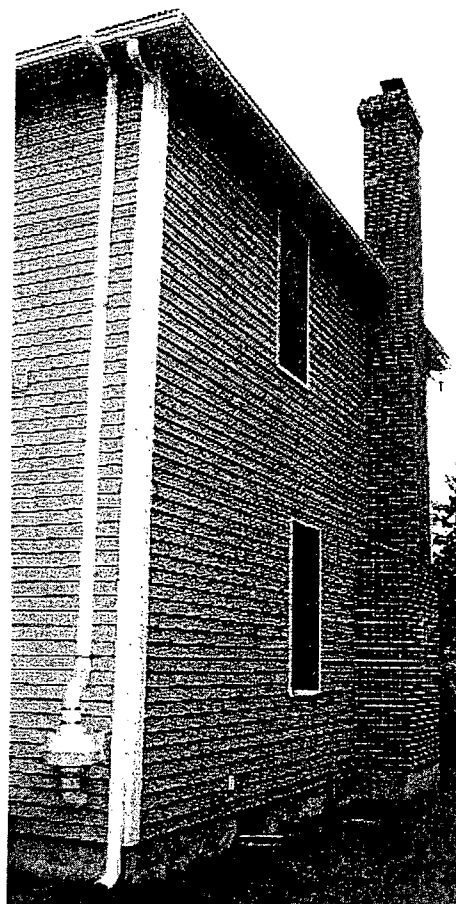
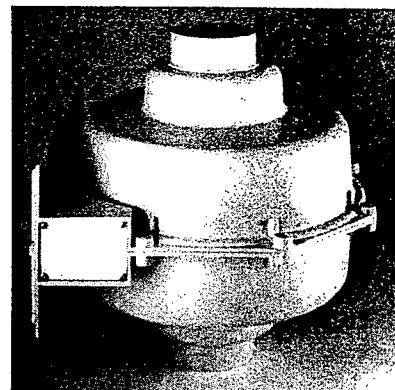
NOTE:
TO AVOID CONDENSATE COLLECTION INSIDE
THE BLOWER HOUSING MOUNT AIR INTAKE
FACING DOWN

RadonAway™

GP Series

Radon Mitigation Fans

Specially designed for radon mitigation, GP Series Fans provide a wide range of performance that makes them ideal for most subslab radon mitigation systems.



- ♦ 5-Year Warranty
- ♦ Mounts on duct pipe or with integral flange
- ♦ 3" diameter ducts for use with 3" or 4" pipe
- ♦ Electrical box for hard wire or plug in
- ♦ ETL Listed - for indoor or outdoor use.

Model	Dimensions		
	A	B	C Duct Size
GP series	12.5"	13"	3"

The following chart shows performance of GP Series fans:

Model	Watts	Maximum Pressure "WC	Typical CFM vs. Static Pressure WC						
			1.0"	1.5"	2.0"	2.5"	3.0"	3.5"	4.0"
GP201	40-60	2.0	82	58	5	-	-	-	-
GP301	55-90	2.6	92	77	45	10	-	-	-
GP401	60-110	3.4	93	82	60	40	15	-	-
GP501	70-140	4.2	95	87	80	70	57	30	10

Choice of model is dependent on certain building characteristics including sub-slab materials and should be made by a radon professional.

FOR FURTHER INFORMATION CONTACT: